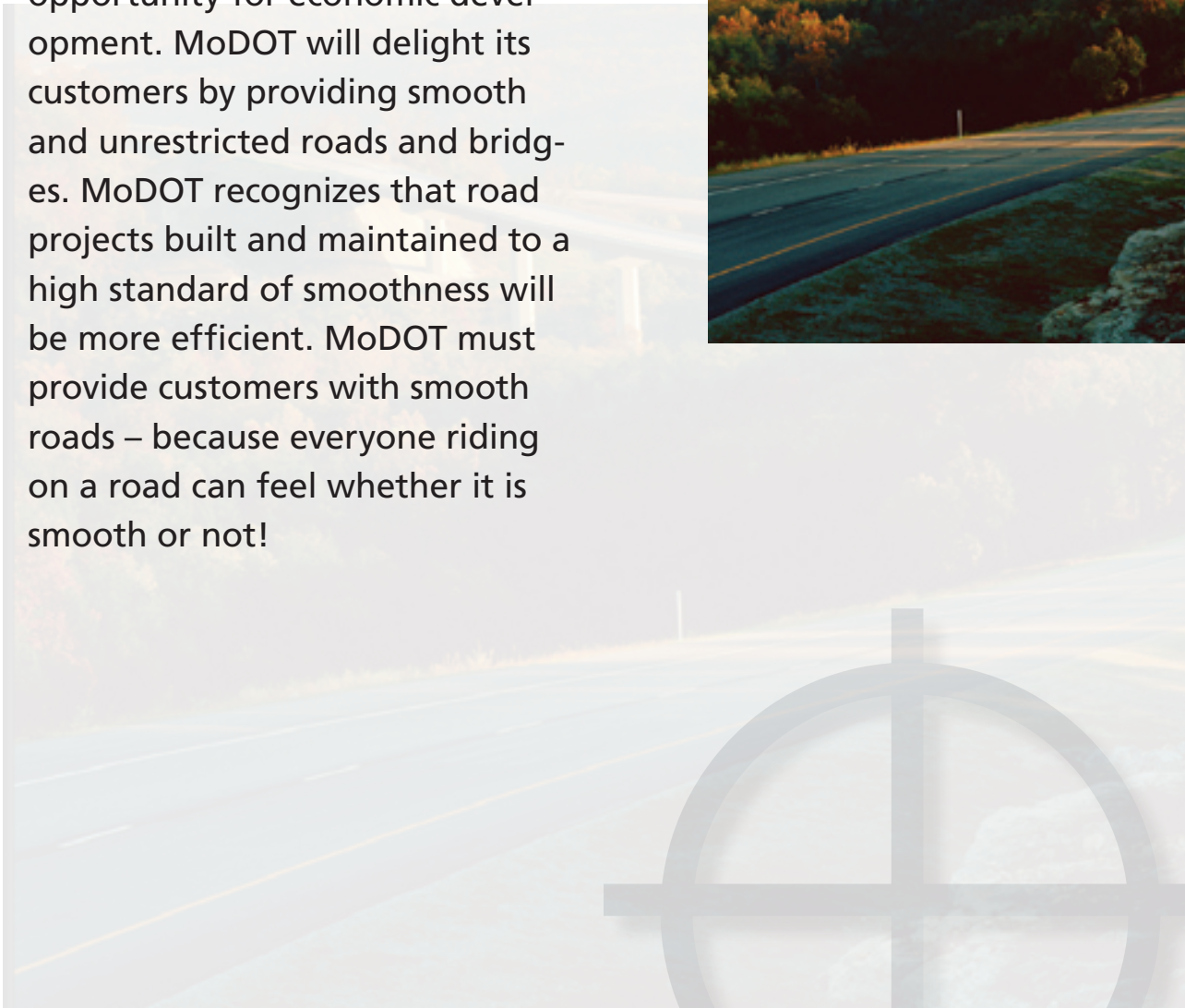


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# Smooth and Unrestricted Roads and Bridges

*Tangible Result Driver – Kevin Keith,  
Chief Engineer*

MoDOT's customers have said they want smooth roads. Smoother roads mean less wear on vehicles, safer travel and greater opportunity for economic development. MoDOT will delight its customers by providing smooth and unrestricted roads and bridges. MoDOT recognizes that road projects built and maintained to a high standard of smoothness will be more efficient. MoDOT must provide customers with smooth roads – because everyone riding on a road can feel whether it is smooth or not!



## Smooth and Unrestricted Roads and Bridges

### *Percent of major highways that are in good condition*

**Result Driver:** Kevin Keith, Chief Engineer

**Measurement Driver:** Jay Bledsoe, Transportation System Analysis Engineer

#### **Purpose of the Measure:**

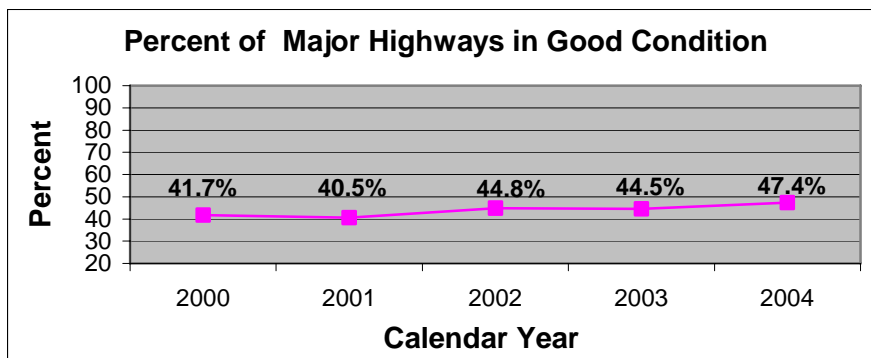
This measure tracks the condition of Missouri's major highway road surfaces. The public has indicated the condition of Missouri's existing roadway system should be one of the state's highest priorities. MoDOT places a high priority on improving the condition of highways in the state system.

#### **Measurement and Data Collection:**

The major highway system is defined as all routes functionally classified as principal arterials. By definition, the principal arterial system provides for statewide or interstate movement of traffic. Examples include the Interstate system or most US routes such as US 63, US 54 or US 36. In urban areas, principal arterials carry traffic entering or leaving the urban area and serve movement of vehicles between central business districts and suburban residential areas. Examples include Business 50 (Missouri Blvd.) in Jefferson City, MO 740 (Stadium Blvd.) in Columbia and Route D (Page Ave.) in St. Louis. The major roads in Missouri total approximately 5,400 centerline miles. Good condition is defined using a combination of criteria. On high-speed routes (speed limits greater than 50 mph) the International Roughness Index is used. For lower speeds routes (mostly urban areas) where smoothness is less critical, a Present Serviceability Rating is used. While smoothness is a factor in PSR, physical condition is also a factor.

#### **Improvement Status:**

In the past two years, there has been a slight improvement in pavement condition. Currently, 47.4% of our major highways are in "good" condition. More than \$430 million per year is dedicated to taking care of the existing highway system. An additional \$359 million available from Amendment 3 will be added to this sum over the next 3 years as part of MoDOT's Smooth Road Initiative. In the next few years, the number of major highway miles of pavement in "good" condition will substantially increase due to additional funding.



**Desired  
Trend:**



## Smooth and Unrestricted Roads and Bridges

### *Percent of minor highways that are in good condition*

**Result Driver:** Kevin Keith, Chief Engineer

**Measurement Driver:** Jay Bledsoe, Transportation System Analysis Engineer

#### **Purpose of the Measure:**

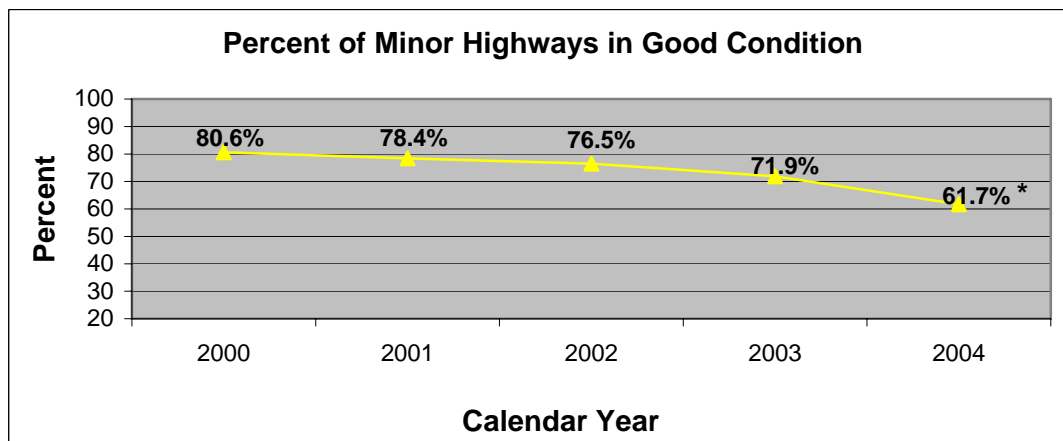
This measure tracks the condition of Missouri's minor highway road surfaces. The public has indicated the condition of the existing state roadway system should be one of Missouri's highest priorities. MoDOT places a high priority on improving the condition of highways in the state system.

#### **Measurement and Data Collection:**

The minor highway system consists of all routes functionally classified as minor arterials or collectors. These routes mainly serve local transportation needs and include highways commonly referred to as lettered routes, such as Route A, Route C and Route DD. The public sometimes refers to these routes as farm-to-market roads. The minor roads in Missouri total approximately 27,000 centerline miles. Good condition is defined using a combination of criteria. Where available, on high-speed routes (speed limits greater than 50 mph) the International Roughness Index is used. For lower speed routes where smoothness is less critical, a Present Serviceability Rating is used. While smoothness is a factor in PSR, physical condition is also a factor.

#### **Improvement Status:**

Pavement conditions on minor highways have shown a slight decrease in the last five-years currently to 61.7%. However, the condition of pavement on minor highways already exceeds that of the major highway system. More attention and extra money from the passage of Amendment 3 will be focused on improving the major highway roads. Funding for minor highway roads should result in conditions at or near current levels.



**Desired  
Trend:**



\* 2004 results are based on approximately 11,000 miles rated using a combination of automated methods and district manual ratings. Prior years are based only on manual district ratings. A process to transition to centralized rating is being developed.

## Smooth and Unrestricted Roads and Bridges

### *Percent of deficient bridges on major highways*

**Result Driver:** Kevin Keith, Chief Engineer

**Measurement Driver:** Jay Bledsoe, Transportation System Analysis Engineer

#### **Purpose of the Measure:**

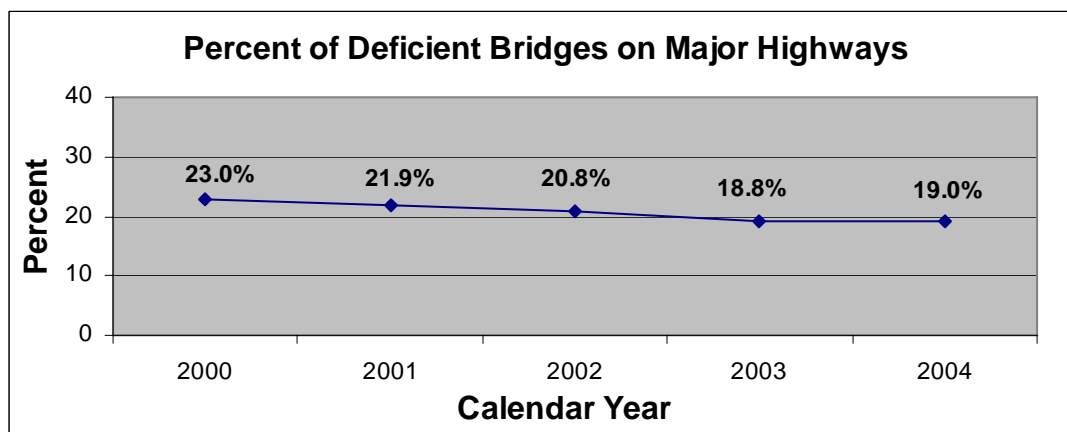
This measure tracks progress toward improving the condition of Missouri's bridges on major highways. The public has indicated the condition of Missouri's existing roadway system should be one of the state's highest priorities. MoDOT places a high priority on increasing the quality of bridges on the state system.

#### **Measurement and Data Collection:**

The major highway system is defined as all routes functionally classified as principal arterials. By definition, the principal arterial system provides for statewide or interstate movement of traffic. Examples include the Interstate system or most US routes such as US 63, US 54 or US 36. In urban areas, principal arterials carry traffic entering or leaving the urban area and serve movement of vehicles between central business districts and suburban residential areas. Examples include Business 50 (Missouri Blvd.) in Jefferson City, MO 740 (Stadium Blvd.) in Columbia and Route D (Page Ave.) in St. Louis. A bridge is considered deficient if it is either Structurally Deficient or Functionally Obsolete as defined using Federal Highway Association criteria. A SD bridge is in poor condition or has insufficient load capacity when compared to modern design standards. A FO bridge has poor roadway alignment or has clearance or width restrictions that no longer meet the usual criteria for the system it serves. MoDOT staff inspects all state owned bridges annually. There are currently 3,282 bridges on major highways.

#### **Improvement Status:**

Bridge conditions on major highways have shown a moderate improvement down to 19 percent in the last five years as a result of increasing funds directed to taking care of the existing highway system. A minimum of \$10 million per year has been dedicated to bridge preventive maintenance activities to slow the number of structures falling into the deficient category.



**Desired  
Trend:**



## Smooth and Unrestricted Roads and Bridges

### *Percent of deficient bridges on minor highways*

**Result Driver:** Kevin Keith, Chief Engineer

**Measurement Driver:** Jay Bledsoe, Transportation System Analysis Engineer

#### **Purpose of the Measure:**

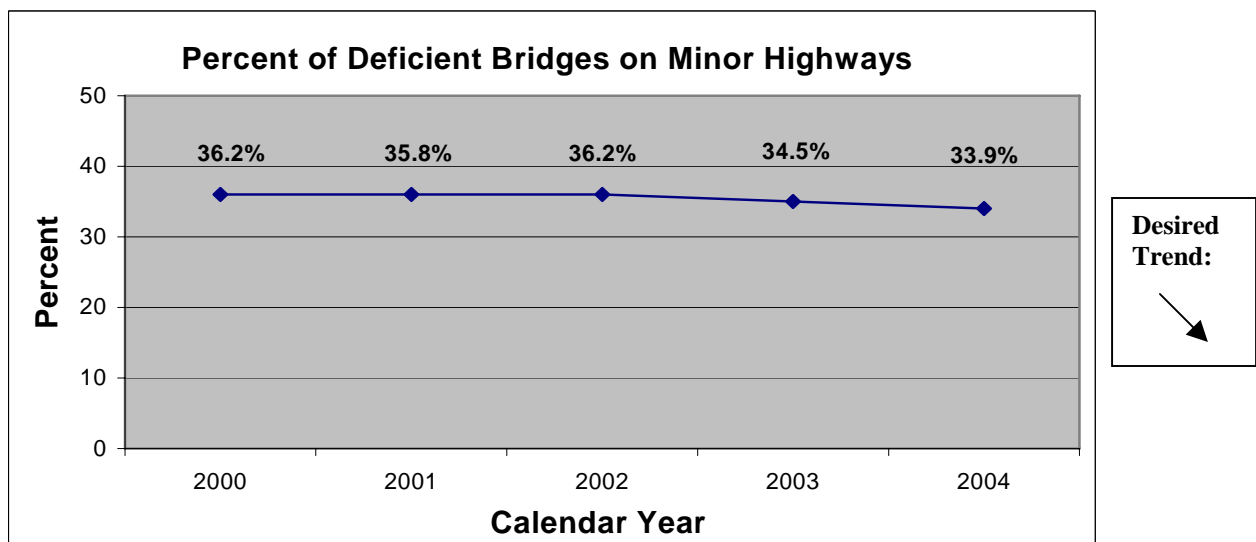
This measure tracks progress toward improving the condition of Missouri's minor highway bridges. The public has indicated the condition of Missouri's existing roadway system should be one of the state's highest priorities. MoDOT places a high priority on increasing the quality of bridges on the state system.

#### **Measurement and Data Collection:**

The minor highway system consists of all routes functionally classified as minor arterials or collectors. These routes serve more local transportation needs and include highways commonly referred to as lettered routes, such as Route A, Route C and Route DD. The public sometimes refers to these routes as farm-to-market roads. A bridge is considered deficient if it is either Structurally Deficient or Functionally Obsolete as defined using Federal Highway Association criteria. A SD bridge is in poor condition or has insufficient load capacity when compared to modern design standards. A FO bridge has poor roadway alignment, or has clearance or width restrictions that no longer meet the usual criteria for the system it serves. MoDOT staff inspects all state owned bridges annually. There are currently 6,901 bridges on minor highways.

#### **Improvement Status:**

Bridge conditions on minor highways have shown a moderate improvement down to 33.9 percent in the last five years as a result of increasing funds directed to taking care of the existing highway system. A minimum of \$10 million per year has been dedicated to bridge preventive maintenance activities to slow the number of structures falling into the deficient category.



## Smooth and Unrestricted Roads and Bridges

### *Number of deficient bridges on the state system (major & minor highways)*

**Result Driver:** Kevin Keith, Chief Engineer

**Measurement Driver:** Jay Bledsoe, Transportation System Analysis Engineer

#### **Purpose of the Measure:**

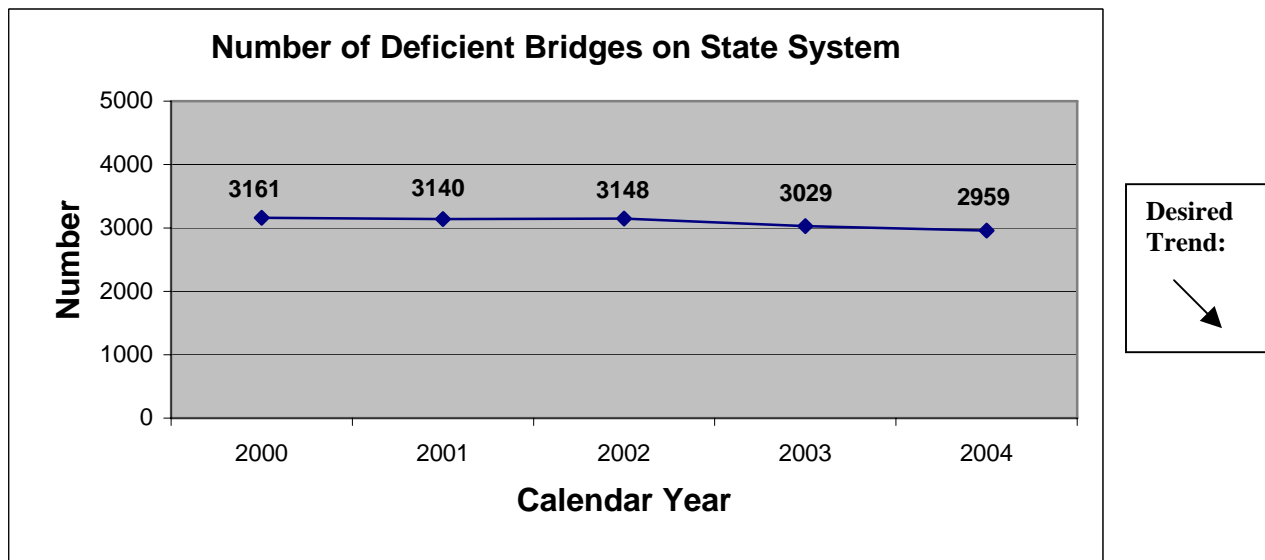
This measure tracks progress toward improving the condition of Missouri's bridges. The public has indicated the condition of Missouri's existing roadway system should be one of the state's highest priorities. MoDOT places a high priority on increasing the quality of bridges on the state system.

#### **Measurement and Data Collection:**

A bridge is considered deficient if it is either Structurally Deficient or Functionally Obsolete as defined using Federal Highway Association criteria. A SD bridge is in poor condition or has insufficient load capacity when compared to modern design standards. A FO bridge has poor roadway alignment or has clearance or width restrictions that no longer meet the usual criteria for the system it serves. MoDOT staff inspects all state owned bridges annually. There are currently a total of 10,183 bridges on the state highway system.

#### **Improvement Status:**

Bridge conditions on Missouri highways have shown a moderate improvement in the last five years as a result of increasing funds directed to taking care of the existing highway system. Currently 2,959 bridges are considered deficit on the state highway system. A minimum of \$10 million per year has recently been dedicated to preventive maintenance activities on bridges to slow the number of structures falling into the deficient category.



## Smooth and Unrestricted Roads and Bridges

### *Number of miles completed through the Smooth Roads Initiative*

**Result Driver:** Kevin Keith, Chief Engineer

**Measurement Driver:** Machelles Watkins, Transportation Planning Director

#### **Purpose of the Measure:**

This measure will determine how many centerline miles of roadway have been improved as a result of the Amendment 3 Smooth Roads Initiative.

#### **Measurement and Data Collection:**

Data collection on this measure began May 1, 2005 with reporting as soon as SRI projects are completed. The first data report is included in the July 2005 Tracker. All of the Smooth Roads Initiative projects should be completed within three years.

#### **Improvement Status:**

The first set of Smooth Roads Initiative projects were awarded in February 2005, with construction starting in March, weather permitting. While we now have a number of SRI projects underway, at this time only one SRI project has been completed for a total of 7 miles. Our goal is to have 2200 miles completed within three years.

